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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/817,586      | 04/02/2004  | Ken S. McElvain      | 2986P009D           | 4913             |

8791 7590 10/13/2005

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EXAMINER

DO, THUAN V

ART UNIT PAPER NUMBER

2825

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/817,586

Applicant(s)

MCELVAIN, KEN S.

Examiner

Thuan Do

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 26-41 is/are pending in the application.
- 4a) Of the above claim(s) 32,33,40 and 41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-31 and 34-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/02/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is responsive to the restriction elected on 08/12/2005. Claims 26-31 and 34-39 are pending in this office action. Claims 1-25 have been canceled. The non-elected claims 32-33 and 40,41 are requested to cancel in the next response.

### **Drawings**

A formal set of drawings is needed in the next response.

### **Claim Rejections - 35 USC 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26, 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 26, the term "replacing said found carry chain" where the found carry chain stands for determining a first delay.

Claim 34, the term "replacing said parallel carry chain" where the parallel carry chain stands for determining a second delay.

Specification only support "replacing a single carry chain with parallel carry chains" (spec. page 9, line 19) which is consider to match to claim 26 only. But if the word "replacing" is used in claim 26 that function cannot describe the signal flowing to the input of the next stage in the continuous signal path.

Examiner found that the word "replacing" is could be replaced by "selecting" as stated in the specification (spec. page 9, line 10) for the output of the claim. The selecting function is also matched to the function of figure 10 containing multiplexing devices.

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- b) Claims 26 and 34, the term "second propagation delay is lower than ..." is undefined in the specification. Clarification or correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 26-31 and 34-39 are rejected under 35 U.S.C. 102(e) as being unpatentable over Park et al., Pat. No. 6359468.

**Regarding claim 26:** Park teaches a method comprising:

searching for a carry chain within a semiconductor device design (col. 1, line 65 through col. 2, line 2 using determination of the carry signal);

determining a first propagation delay through a found carry chain found, said found carry chain found from said searching (col. 1, lines 50-60 for delay in each carry region);

determining a second propagation delay through a parallel carry chain implementation of said found carry chain (col. 11, lines 16-45); and

replacing said found carry chain within said semiconductor device design with said parallel carry chain implementation if said second propagation delay is lower than said first propagation delay (col. 3, lines 20-31 and col. 11, lines 16-45 for selecting the carry signal from a logic region within the expected faster time).

**Regarding claim 27:** Park teaches a method with RTL netlist (col. 6, lines 49-64 using data register circuitry).

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**Regarding claim 28:** Park teaches a method with delay percentage (col. 4, lines 50-55).

**Regarding claim 29:** Park teaches a method with searching (col. 1, line 65 through col. 2, line 2)

**Regarding claim 30:** Park teaches a method with incrementing (col. 10, line 27).

**Regarding claim 31:** Park teaches a method with multiplexing (col. 3, lines 20-31).

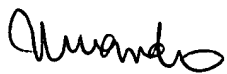
The remaining claims of 102(e) section contain features similar to the rejection of claims 26-31 and rejected in the rationale.

### CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan Do whose telephone number is 571-272-1891. The examiner can normally be reached on Monday-Friday 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 571-272-1907. The fax phone numbers for proceeding this application is 571 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0596.



Thuan Do  
Primary examiner  
10/03/2005